

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) An optical arrangement comprising a plurality of transmitter elements and/or receiver elements, a plurality of diffractive and/or refractive optical elements (20) and an optical system carrier (10) for the diffractive and/or refractive optical elements (20), ~~characterized in that~~ wherein the optical system carrier (10) has diaphragm apertures (11) in whose region the diffractive and/or refractive optical elements (20) are connected to the optical system carrier (10) by means of an injection molding process or of a casting process[.]; and wherein the diffractive and/or refractive optical elements each have at least one undercut into which the rim of the diaphragm aperture engages.

2. (Currently Amended) An optical arrangement in accordance with claim 1, ~~characterized in that~~ wherein the diffractive and/or refractive optical elements (20) are made as lenses.

3. (Currently Amended) An optical arrangement in accordance with claim 1, ~~characterized in that~~ wherein the diffractive and/or refractive optical elements (20) are attached to the optical system carrier (10) individually and in particular spaced apart from one another or adjoining one another.

4. (Canceled)

5. (Canceled)

6. (Currently Amended) An optical arrangement in accordance with claim 27, ~~characterized in that~~ wherein a number of additional fastening apertures ~~(13)~~ are associated with each diaphragm aperture ~~(11)~~, with the additional fastening apertures ~~(13)~~ associated with a diaphragm aperture ~~(11)~~ each being arranged substantially uniformly distributed around this diaphragm aperture ~~(11)~~.

7. (Currently Amended) An optical arrangement in accordance with claim 1, ~~characterized in that~~ wherein the diffractive and/or refractive optical elements ~~(20)~~ have projections ~~(21)~~ engaging into ~~the~~ fastening apertures ~~(13)~~ and having undercuts ~~(23)~~.

8. (Currently Amended) An optical arrangement in accordance with claim 1, ~~characterized in that~~ wherein only specific diaphragm apertures ~~(11)~~ are provided with diffractive and/or refractive optical elements ~~(20)~~.

9. (Currently Amended) An optical arrangement in accordance with claim 1, ~~characterized in that~~ wherein the diaphragm apertures ~~(11)~~ are made as diaphragm tubes.

10. (Currently Amended) An optical arrangement in accordance with claim 1, ~~characterized in that~~ wherein the optical system carrier ~~(10)~~ consists of light-impermeable material, in particular of metal or plastic.

11. (Currently Amended) An optical arrangement in accordance with claim 1, ~~characterized in that~~ wherein the optical system carrier ~~(10)~~ is made as a stamped strip.

12. (Currently Amended) An optical arrangement in accordance with claim 1, ~~characterized in that~~ wherein the optical system carrier (10) is made as a strip which can be cut to length.

13. (Currently Amended) An optical arrangement in accordance with claim 1, ~~characterized in that~~ wherein the optical system carrier has a marginal region and (10) has recesses (14) in ~~its~~ the marginal region.

14. (Currently Amended) An optical arrangement in accordance with claim 1, ~~characterized in that~~ wherein the optical system carrier (10) is made as a rigid element or as flexible, in particular windable.

15. (Currently Amended) An optical arrangement in accordance with claim 1, ~~characterized in that~~ wherein the transmitter elements and/or the receiver elements are arranged on a rigid or flexible electronic system carrier ~~(30)~~, preferably on an electronic board.

16. (Currently Amended) An optical arrangement in accordance with claim 15, ~~characterized in that~~ wherein the electronic system carrier (30) provided with the transmitter elements and/or with the receiver elements and the optical system carrier (10) are connected to one another to form a unit by means of a snap connection ~~(40)~~.

17. (Currently Amended) An optical arrangement in accordance with claim 16, ~~characterized in that~~ wherein the unit, consisting of the optical system carrier (10) provided with diffractive and/or refractive optical elements (20) and of the electronic system carrier ~~(30)~~ connected thereto and provided with the transmitter elements and/or

the receiver elements, is arranged in an extrusion section ~~(60)~~, preferably in an aluminum section.

18. (Currently Amended) An optical arrangement in accordance with claim 17, ~~characterized in that~~ wherein the extrusion section ~~(60)~~ is made in U shape.

19. (Currently Amended) An optical arrangement in accordance with claim 17, ~~characterized in that~~ wherein the extrusion section ~~(60)~~ has holding grooves ~~(70)~~ for the optical system carrier and/or the electronic system carrier ~~(30)~~.

20. (Original) A light grid having at least one optical arrangement in accordance with claim 1.

21. (Currently Amended) A method for the manufacture of an optical arrangement comprising a plurality of transmitter elements and/or receiver elements, a plurality of diffractive and/or refractive optical elements ~~(20)~~ and an optical system carrier ~~(10)~~ for the diffractive and/or refractive optical elements ~~(20)~~, ~~characterized in that~~ wherein in a first method step, the optical system carrier ~~(10)~~ is at least provided with diaphragm apertures ~~(11)~~, in a further method step, the diffractive and/or refractive optical elements ~~(20)~~ are connected to the optical system carrier ~~(10)~~ in the region of the aperture openings ~~(11)~~ by means of an injection molding process or of a casting process[.]; and wherein the diffractive and/or refractive optical elements each have at least one undercut into which the rim of the diaphragm aperture engages.

22. (Currently Amended) A method in accordance with claim 21, ~~characterized in that~~ wherein a single optical element ~~(20)~~ or a group of optical

elements {20} are connected to the optical system carrier {10} by means of a single injection molding process or casting process.

23. (Currently Amended) A method in accordance with claim 21, ~~characterized in that~~ wherein the connection of the diffractive and/or refractive optical elements {20} to the optical system carrier {10} takes place in a quasi endless method, with the optical system carrier {10} present in wound-up form being unwound and being supplied to the injection molding machine or casting machine; and ~~in that~~ wherein, subsequently, the optical system carrier {10} provided with the diffractive and/or refractive optical elements {20} is cut to length.

24. (New) A method for the manufacture of an optical arrangement comprising a plurality of transmitter elements and/or receiver elements, a plurality of diffractive and/or refractive optical elements and an optical system carrier for the diffractive and/or refractive optical elements, characterized wherein in a first method step, the optical system carrier is at least provided with diaphragm apertures, in a further method step, the diffractive and/or refractive optical elements are connected to the optical system carrier in the region of the aperture openings by means of an injection molding process or of a casting process; and wherein the optical system carrier has, in addition to the diaphragm apertures, additional fastening apertures for the diffractive and/or refractive optical elements.

25. (New) A method in accordance with claim 24, wherein a single optical element or a group of optical elements are connected to the optical system carrier by means of a single injection molding process or casting process.

26. (New) A method in accordance with claim 24, wherein the connection of the diffractive and/or refractive optical elements to the optical system carrier takes place in a quasi endless method, with the optical system carrier present in wound-up form being unwound and being supplied to the injection molding machine or casting machine; and wherein, subsequently, the optical system carrier provided with the diffractive and/or refractive optical elements is cut to length.

27. (New) An optical arrangement comprising a plurality of transmitter elements and/or receiver elements, a plurality of diffractive and/or refractive optical elements and an optical system carrier for the diffractive and/or refractive optical elements, wherein the optical system carrier has diaphragm apertures in whose region the diffractive and/or refractive optical elements are connected to the optical system carrier by means of an injection molding process or of a casting process; and wherein the optical system carrier has, in addition to the diaphragm apertures, additional fastening apertures for the diffractive and/or refractive optical elements.

28. (New) An optical arrangement in accordance with claim 27, wherein the diffractive and/or refractive optical elements are made as lenses.

29. (New) An optical arrangement in accordance with claim 27, wherein the diffractive and/or refractive optical elements are attached to the optical system carrier individually and in particular spaced apart from one another or adjoining one another.

30. (New) An optical arrangement in accordance with claim 27, wherein the diffractive and/or refractive optical elements have projections engaging into the fastening apertures and having undercuts.

31. (New) An optical arrangement in accordance with claim 27, wherein only specific diaphragm apertures are provided with diffractive and/or refractive optical elements.

32. (New) An optical arrangement in accordance with claim 27, wherein the diaphragm apertures are made as diaphragm tubes.

33. (New) An optical arrangement in accordance with claim 27, wherein the optical system carrier consists of light-impermeable material, in particular of metal or plastic.

34. (New) An optical arrangement in accordance with claim 27, wherein the optical system carrier is made as a stamped strip.

35. (New) An optical arrangement in accordance with claim 27, wherein the optical system carrier is made as a strip which can be cut to length.

36. (New) An optical arrangement in accordance with claim 27, wherein the optical system carrier has recesses in its marginal region.

37. (New) An optical arrangement in accordance with claim 27, wherein the optical system carrier is made as a rigid element or as flexible, in particular windable.

38. (New) An optical arrangement in accordance with claim 27, wherein the transmitter elements and/or the receiver elements are arranged on a rigid or flexible electronic system carrier, preferably on an electronic board.

39. (New) An optical arrangement in accordance with claim 38, wherein the electronic system carrier provided with the transmitter elements and/or with the receiver elements and the optical system carrier are connected to one another to form a unit by means of a snap connection.

40. (New) An optical arrangement in accordance with claim 39, wherein the unit, consisting of the optical system carrier provided with diffractive and/or refractive optical elements and of the electronic system carrier connected thereto and provided with the transmitter elements and/or the receiver elements, is arranged in an extrusion section, preferably in an aluminum section.

41. (New) An optical arrangement in accordance with claim 40, wherein the extrusion section is made in U shape.

42. (New) An optical arrangement in accordance with claim 40, wherein the extrusion section has holding grooves for the optical system carrier and/or the electronic system carrier.

43. (New) A light grid having at least one optical arrangement in accordance with claim 27.